

REQUEST FOR PROPOSALS FOR

Solar Photovoltaic System, Battery Energy Storage System Installation, Diesel Generator, Control and Electrical System

For

The Bayfield County, Jail and Courthouse Microgrid
Bayfield County, WI

117 East Fifth Street Washburn, WI 54891

Date RFP Released: February 1, 2022

Proposal Due: Tuesday, March 1, 2022

Section 1: Background and Objectives

Bayfield County Wisconsin (County) is seeking proposals through solicitation from qualified solar photovoltaic (PV), battery energy storage system (BESS) installation, and electrical contractors to implement the Bayfield County Jail and Courthouse Microgrid (Microgrid). Currently, the Jail and Courthouse are on separate Xcel Energy electric meters and accounts. The two buildings will be put behind one primary Xcel Energy meter, including the backup generator, existing PV, new PV and new BESS.

The Microgrid will operate under Xcel Energy's Empower Resiliency tariff. The Project Team is coordinating the Microgrid project with Xcel. This has included several meetings and site visits. Xcel staff understand the project's scope. The Microgrid's interconnection details were developed with Xcel staff.

To create the Microgrid the following modifications are needed to County Facilities:

1. Updating the Courthouse's electrical system from high leg 240 V to 120/208V, three-phase.
2. Decommissioning and remove the existing 200 kW generator sited at the Jail, and expediently replacing the Courthouse's existing 200 kW generator. This includes reconnecting the generator's alternator output for 120/208 V three-phase
3. Installing load shedding control for the Jail's elevator, possibly with a contactor or direct access to the elevator control panel.
4. Installing the Switch Storage 110 kWh and 125 kW BESS, model MG 125-110 at the Jail. The BESS is being procured and paid by the County.

5. Engineering, procuring and installing a new PV system, of at least 23.4 kW DC on a new roof area of the Jail and replacing the micro-inverters on the Jail's existing PV systems. Some stringing design may be required. The final size of the new PV system is to be determined given the budgetary constraints noted in this RFP. The roof will be replaced by October 7, 2022.
6. Upgrade the existing solar transformer to accommodate new solar PV, new BESS, and the existing solar PV.
7. Installing all needed balance of system components including communications, load shedding controls, and non-utility metering.

This RFP's scope does not include:

- The medium voltage work needed for the Microgrid, which will be performed by Xcel Energy.
- Programming the medium voltage islanding switch
- Programming of the Switch Storage BESS
- Engineered electrical or structural drawings, except the new PV

The budget for this Project is \$135,000 plus the PV incentive provided by Focus on Energy. The Microgrid Project is funded by a 2020 Office of Energy Innovation, Energy Innovation Grant.

The Bayfield County Jail and Courthouse Microgrid project is supported by the following Project Team Members:

- Mark Abeles-Allison, Bayfield County Administrator
- Michael Wood, Director of Engineering, muGrid Analytics
- Amy Simpkins, CEO, muGrid Analytics
- Travis Simpkins, CTO, muGrid Analytics
- Bill Bailey, Cheq Bay Renewables
- Niels Wolter, Madison Solar Consulting

The muGrid engineering team will provide the Microgrid's stamped drawings for all aspects of the Project except the roof-top PV array, and will work with the selected contractor to finalize all Project drawings and specifications. Michael Wood is leading the Microgrid's electrical engineering.

The Microgrid shall be grid-connected, commissioned, and fully operational by November 30, 2022.

The goal of this Request for Proposals (RFP) is to identify the most financially advantageous proposal that meets the criteria outlined herein from a contractor to supply¹, install, and commission the low-voltage side of the Bayfield County Jail and Courthouse Microgrid.

Bidders are welcome to subcontract and team up, as needed, to best meet the requirements of this Project.

Niels Wolter of Madison Solar Consulting is supporting the County with the RFP process and coordinating closely with the Project Team. All communications regarding this RFP should be with Niels – contact details follow:

Niels Wolter
dba Madison Solar Consulting
2734 Kendall Ave.
Madison WI, 53705
Madison.solar@me.com
608.216.4452

It is strongly recommended that prospective contractors participate in the virtual bidders' meeting and the bidders' site visit. During the site tour, interested bidders will be shown all building and ground areas involved in the Project.

Project Schedule

Activity	Date
Request for Proposals issued	February 1, 2022
Confirm virtual bidders' meeting	February 7, 2022, by 5 pm
Virtual bidders' meeting	February 9, 2022, at 10 am
Confirm bidders' site visit attendance	February 14, 2022, by 5 pm
Bidders' site visit	February 16, 2022, beginning at 9 am
Notice of intent to bid	February 18, 2022, by 5 pm
Proposals due	March 1, 2022, by 5 pm
Contractor selected	March 15, 2022
Contract signed	April 1, 2022
BESS delivered	July 15, 2022
Courthouse electrical system upgrades and generator work completed	September 30, 2022
Roof replacement completed	October 7, 2022
BESS commissioned, utility interconnected, and fully operational	November 30, 2022
PV system commissioned, utility interconnected, and fully operational	November 30, 2022

¹ Note that the BESS including its ELM FieldSight controller will be provided by the County, estimated delivery August 1, 2022

All bidder questions and the County's responses will be shared with all recorded/registered bidders.

Section 2: Solicitation Process

Each respondent to the RFP must demonstrate that they satisfy the minimum requirements described herein to be considered an eligible respondent. The response must meet the requirements in Section 4 and must adequately address all questions that may arise during the bidding process.

Responses to this RFP must be submitted electronically, signed by an authorized officer or an agent of the respondent no later than 5 pm, Tuesday, March 1, 2022. Responses submitted after this date cannot be accepted, and responses that are incomplete or do not conform to the requirements of this RFP may not be considered.

After selecting the preferred installation provider, the Project Team will work together with the selected provider to finalize the Project. This will include updating and adjusting some of the Project's specifications noted here.

Section 3: Scope of Work

Overview

The Bayfield County Microgrid Project's scope of work:

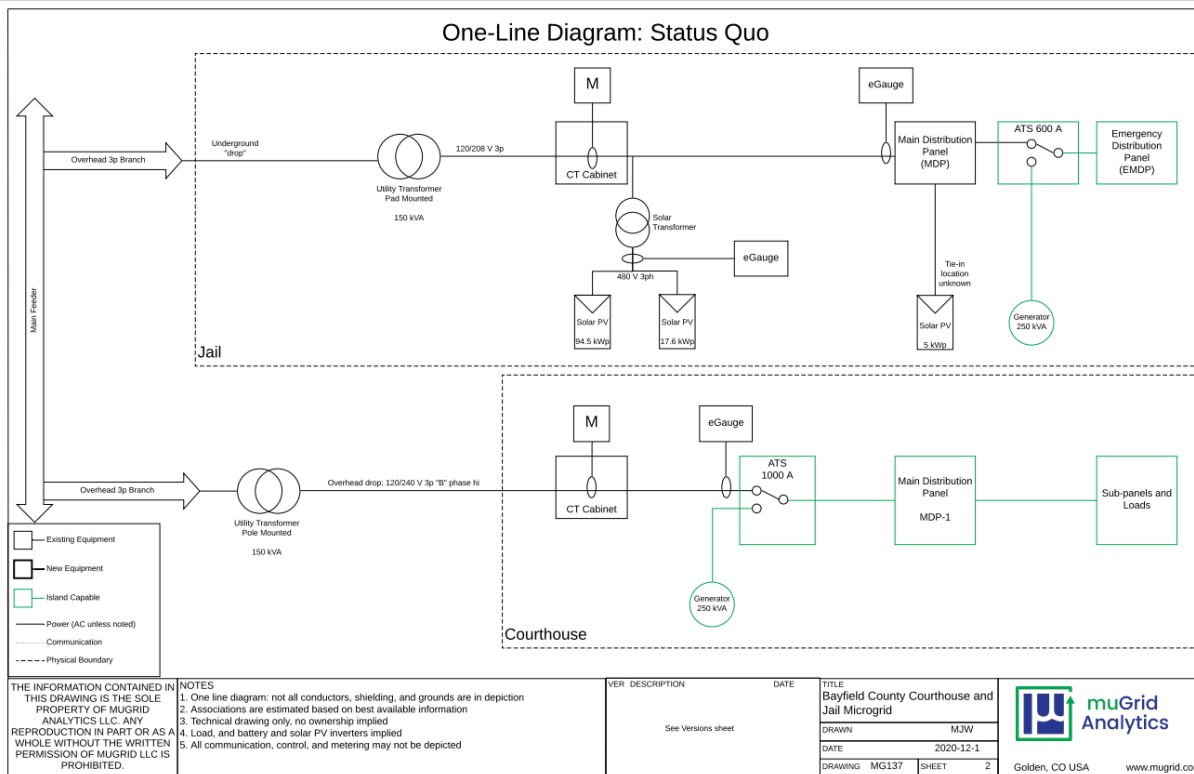
1. Updating the Courthouse's electrical system from high leg 240 V to 120/208 V, three phase.
2. Decommissioning and remove the existing 200 kW generator sited at the Jail, and expediently replacing the Courthouse's existing 200 kW generator. This includes reconnecting the generator's alternator output for 120/208 V 3-phase.
3. Installing load shedding control for the Jail's elevator, possibly with a contactor or direct access to the elevator control panel.
4. Installing the Switch Storage 110 kWh and 125 kW BESS, model MG 125-110 at the Jail. The BESS is being procured and paid by the County.
5. Engineering, procuring, and installing a new PV system, of at least 23.4 kW DC on a new roof area of the Jail and replacing the micro-inverters on the Jail's existing PV systems. The final size of the new PV systems is to be determined given the budgetary constraints noted in this RFP. The roof will be replaced by October 7, 2022.
6. Upgrade the existing solar transformer to accommodate new solar PV plus the existing solar PV.
7. Installing all needed balance of system components including communications and non-utility metering.

The electrical engineering of the Microgrid is complete except for the new rooftop PV system. The added PV capacity requires upgrading the existing roof-mounted solar transformer to accommodate the added solar capacity. The engineer of record is Hyde Engineering, based in Boulder Colorado, licensed in Wisconsin.

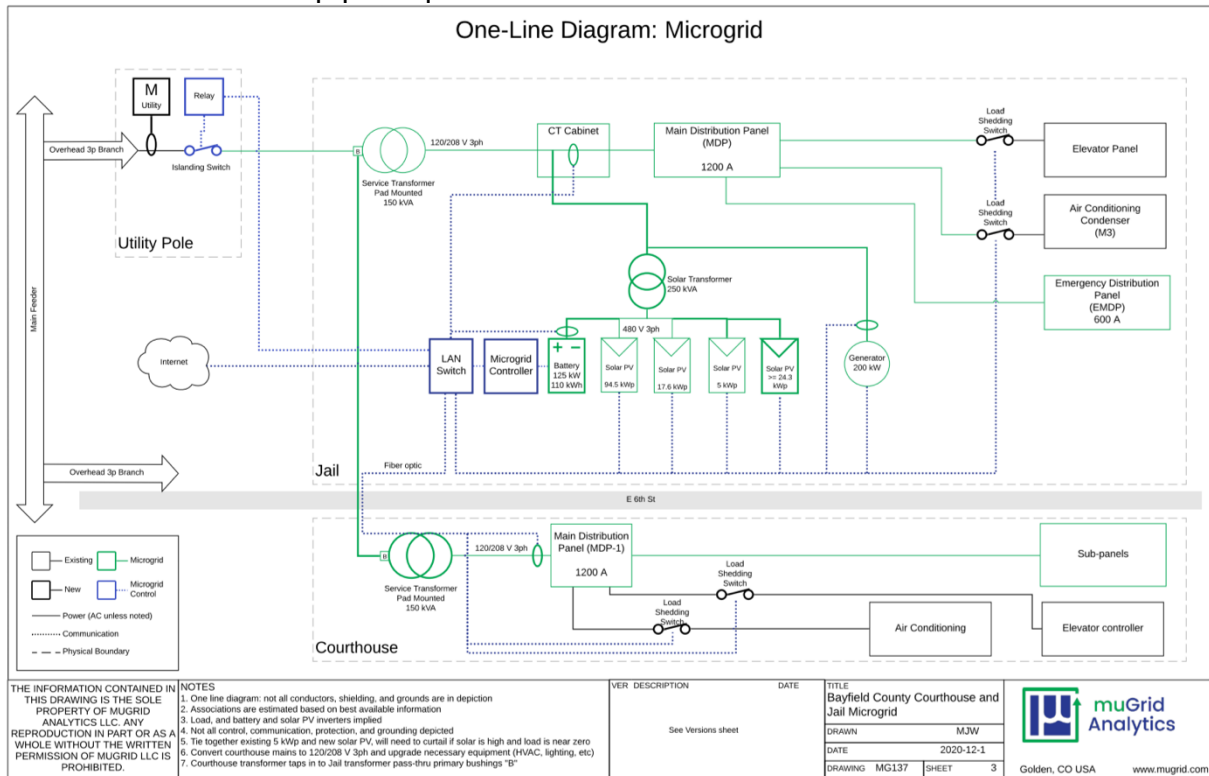
During the Microgrid's installation it is critical to reduce downtime and minimize the period without generator backup. The Bayfield County Jail is a secure facility. It hosts the Bayfield County Sheriff Department and a two-county 911 dispatch system. Careful planning and coordination will be required between County Jail Staff, and Xcel Energy to minimize the time without backup generation. The bidder shall include a generator removal and reinstallation plan and anticipated outage times with their proposal.

The Project's microgrid one-line electrical diagrams are provided below.

Status Quo One-Line Diagrams of the Bayfield County Courthouse and Jail's Electrical Systems

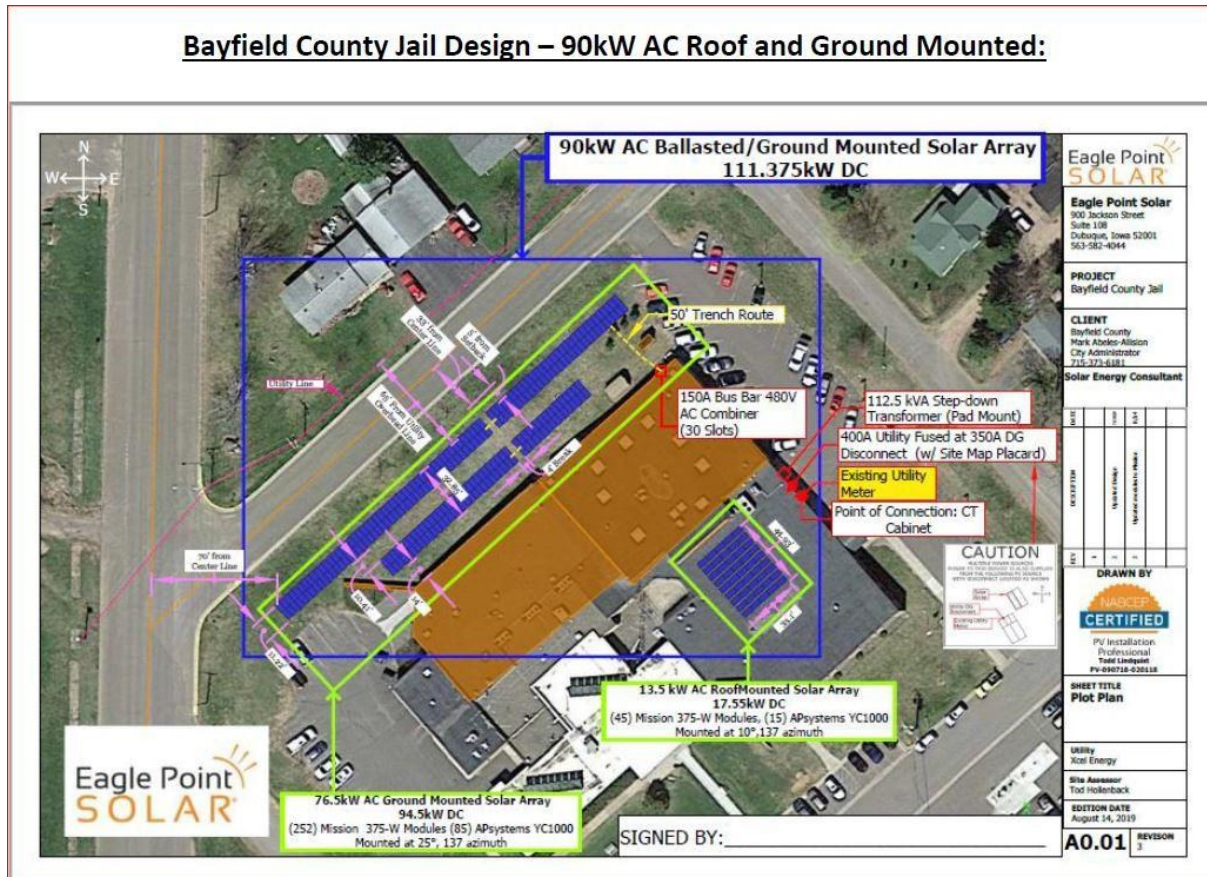


One-Line Diagram of the combined Bayfield County Courthouse and Jail's Electrical System.
Please use this to develop price quotes for this RFP.



The 90% Engineering Plan Set is will be provided to all bidders ASAP.

Shown below are Bayfield County Jail's current PV systems and other electrical details.



Beyond the standard design, installation services, the selected bidder will:

- Work with the technical contact Michael Wood to finalize all the Microgrid's specifications
- Lead the local permitting activities as needed for Microgrid's installation and operation. All anticipated permitting shall be included in the Project's price.
- Help complete the interconnection application with Xcel, via email, virtual meetings, telephone calls and in-person meetings, including:
 - Coordinate with Project Team when completing the interconnection application forms
 - Be available to answer questions, provide additional information, etc., to Xcel
 - Attend the utility's interconnection testing and/or commissioning of the systems, if requested by the utility
- Provide other standard procedures as needed for successful installation, funding, commissioning, and operation of the Microgrid

The Microgrid project is funded by an OEI EIGP grant and thus Project components/materials must meet the Buy American requirements and labor must meet the Davis Bacon Act Requirements. The Project Team worked with OEI staff to ensure that the Switch Storage BESS and BESS controller meet the Buy American requirements.

The installation provider must provide at least a 5-year Workmanship Warranty for all work completed for the Microgrid Project.

The Microgrid Project Objectives

The Microgrid Project is to be installed, and operated to:

- Maximize the County's electricity costs savings
- Provide resilience to critical county facilities
- Minimize maintenance, repair, and replacement needs over the Microgrid's expected 20-to-30-year operating life
- Allow easy access for operation, monitoring, maintenance, repairs, and replacements
- Minimize system downtime, including the continued operation of the PV system and the system generator if the BESS is not in operation

The Microgrid Project will be operated using real-time dispatch optimization services provided by muGrid Analytics in coordination with the ELM Fieldsight controller provided by Switch Storage Solutions.

3.1 Update the Courthouse's electrical system from 120/240 V 3ph hi-leg to 120/208 V 3ph

This will require a new transformer that will be specified, paid, and installed by Xcel. The transformer will be sited at the Courthouse's administrative entry, as shown on the site map below.



The selected contractor shall:

Verify that all circuits that are currently 240v will run on 208v as is or make necessary modifications. A list of the main 240v circuits to review is listed in the table below.

The bidders will be able to examine the buildings electrical loads during the site visit

Two licensed electricians have reviewed this task and stated they don't anticipate major modifications; however, it will be up to the selected contractor to determine any and all modifications required.

Bayfield County Courthouse 240v circuits				
Panel	Description	Amps	# of Circuits	Phase
BR	Air Handler	50	1	1
BR	Boiler, circulating	30	2	1

BR	Hot Water Heater	30	1	1
BR	Hot Water Heater	40	1	1
NA	CNG Pump	20	1	1
NA	CNG Pump	30	1	1
NA	CNG Pump	40	1	1
NA	Boiler	20	1	1
NA	Minisplit	30	1	1
L2	Air Unit	30	1	1
L10	Computer backup	30	1	1
PZ	Roof AC	70	1	3
PZ	Roof AC	50	1	3
PZ	A&D Air Handler	100	1	3
PZ	Basement Air Handler	45	1	3
PZ	Air Handler ES	50	1	3
PZ	Courtroom RTU	60	1	3
L9A	Minisplits	30	7	1

3.2. Decommissioning and removing the Jail's existing generator

The Jail's existing 200 kW generator will be removed and decommissioned. The generator will be moved about 30 feet from its current site. The County will retain ownership of the generator.

3.3. Disconnecting the existing 200 kW generator sited at the Courthouse and moving, interconnecting, and commissioning the generator at the Jail (at or close to existing generator).

The selected contractor shall:

- Re-connect the alternator output from 120/240 V delta hi-leg to 120/208 V three phase
- Provide all required switch gear, etc., as well as pouring a new pad if needed.
- Minimize the time that the Jail is without backup power

The local Cummins representative's contact information, regarding the testing and re-commissioning is:
Doug Abrahamson Office: 651-286-2124, cell 612-297-9423 douglas.p.abrahamson@cummins.com

3.4. Installing load shedding control for Jail's elevator and select HVAC circuits

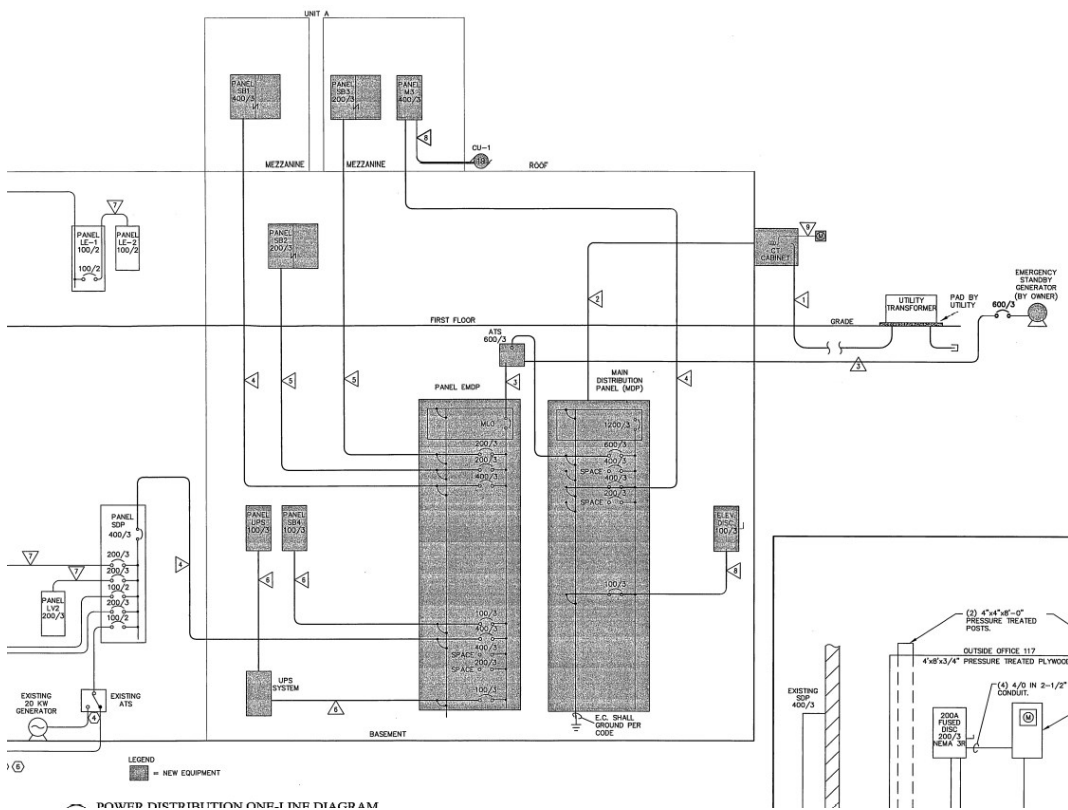
The Jail building currently gets backup power from a 200-kW generator connected to an emergency backup panel, powering all loads except the elevator and a rooftop HVAC condenser. The County requires the ability to shed those loads in certain scenarios. The Switch Storage BESS controller has logic I/O and MODBUS to control external devices for this purpose.

The contractor is asked to review the elevator and condenser controls during the site walk and include in the work a method to shed these loads. Possible solutions could be:

- Motorized circuit breaker
- Direct two-wire lockout of the elevator and condenser controllers

The selected contractor shall implement their preferred solution.

The existing loads that are shed at the Jail are shown in the following one-line:



3.5. Installing the BESS and BESS controller at the Jail

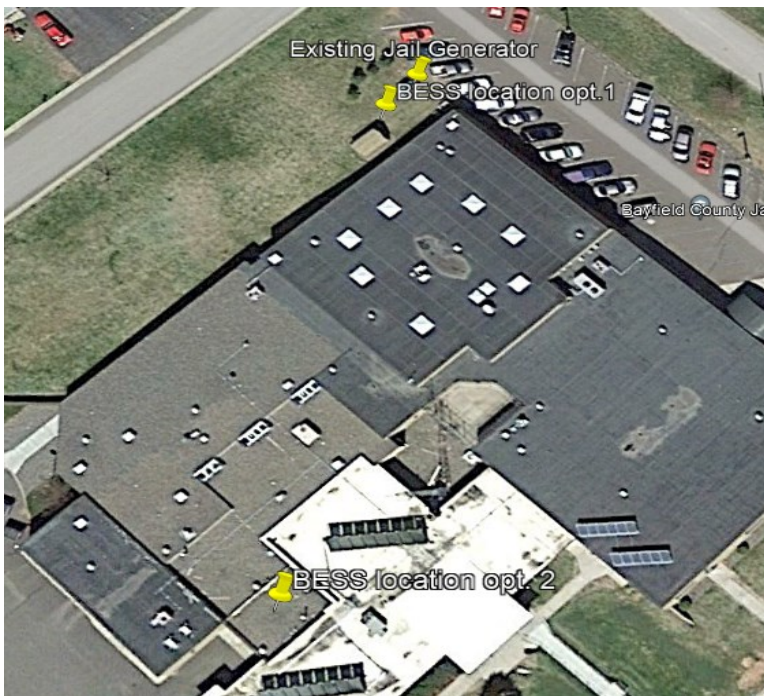
The Microgrid will use the Switch Storage 110 kWh and 125 kW BESS, model MG 125-110 with a ELM FieldSight controller. The BESS is being procured by the County. Please find additional BESS specifications in Appendix 1.

The selected contractor will install the BESS, this includes:

- Pad
- Interconnection
- Monitoring system wiring
- New transfer switch
- Balance of system

The BESS's commissioning will be completed onsite by Switch Storage and muGrid Analytics staff, in coordination with the awarded installation contractor.

The BESS shall be located at the Jail either outside near the relocated generator as shown in figure below, as option 1, or inside a garage space, labeled option 2. The garage location (option 2) is preferred if it is suitable for the BESS (i.e., considering siting, distance, structural, and ventilation requirements).



Installation Manual

- The selected installation provider shall provide an industry-standard installation manual for the BESS including the system's specifications, warranty documents, and other supporting documents for operating, maintaining, and providing simple repairs and maintenance of the BESS.

3.6 Procuring and installing a PV system of at least 23.4 kW DC at the Jail and replacing inverters on existing PV arrays

PV System Specification

The Microgrid project is funded by an OEI EIGP grant and thus must meet the Buy American and Davis Bacon Act Requirements. The solar PV inverter is already selected and included in the engineering drawings (Appendix 3).

- Solar PV modules:
 - Are premium modules
 - Have at least a 25-year production guarantee with at least 85% power output retained after 25 years
 - Have at least a 10-year product warranty (greater than 10 years preferred)
 - Are on the California Energy Commission's list of Photovoltaic (PV) Modules
- PV racking system that:
 - Uses a flat roof ballasted racking system without roof penetrations
 - Has at least a 20-year product warranty
- The selected installation provider shall provide an industry-standard installation manual for the PV system including the PV system's specifications, final as-built one-line diagrams, final as-built string diagrams, warranty documents, and other supporting documents for operating, maintaining, and providing simple repairs and maintenance of each PV system.
- Certified Solar Electric System Installer
 - The lead installer for the system must be a NABCEP certified PV system installation professional in good standing. The NABCEP certified PV system installation professional must be identified in the bidder's proposal.

Jail Rooftop PV System

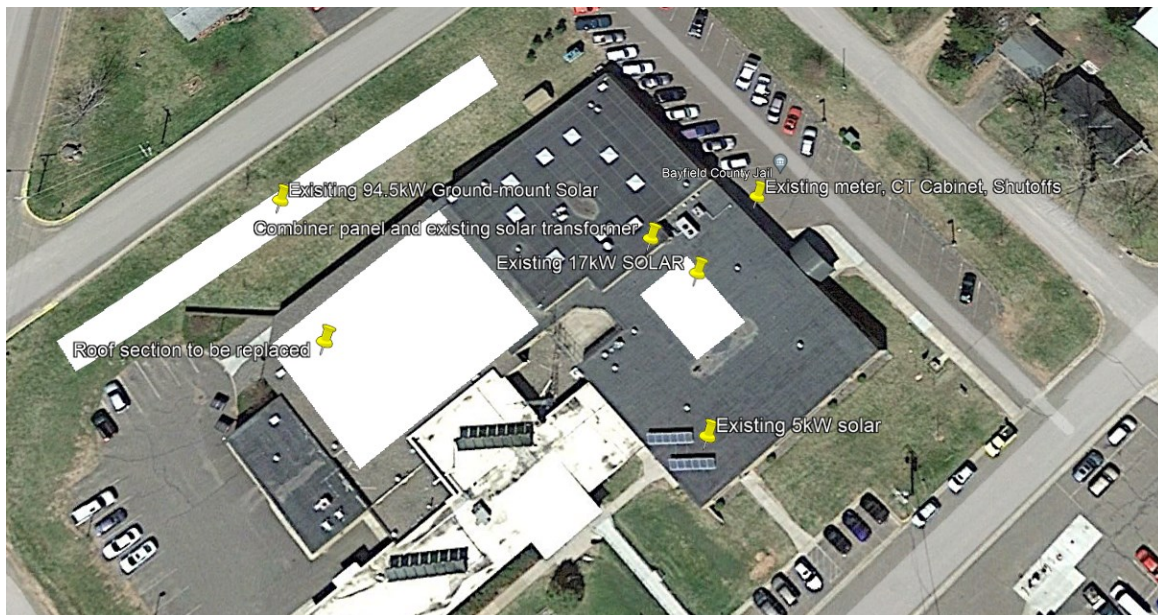
The siting, shown below, is preliminary. The PV system will face southwest. The racking system should have the highest module slope angle the installer and racking manufacturer recommend and the PE approves.

The PV system shall have a DC capacity of at least 23.4 kW. If the budget (capped at \$135,000 plus the Focus on Energy incentive for this RFP) and siting limitations permit, a PV system of up to approximately 60 kW DC could be installed. The County would like to install the largest possible PV system considering the budgetary and siting limitations. A larger proposed solar array will receive serious consideration by the County, all other things equal.

The PV system will be co-funded by:

- Focus on Energy's Special Sector Solar PV Incentive. For systems of 10 to 100 kW DC the incentive formula is: \$8,500 + \$250 per kW DC above 10 kW DC

Site map, below, showing the existing roof-mounted, ground-mounted solar and new solar PV system locations. The new solar will be placed on the section of roof with the label "Roof section to be replaced".



The existing 5kW solar to be re-wired to connect to the main combiner panel located near the existing 17kW solar. The existing solar PV (two separate systems) has AP Systems microinverters and Enphase inverters. All existing microinverters will be replaced with new inverters as specified in the engineering drawings (Appendix 3).

Preliminary Helioscope, shown below, using Trina 400 W modules, 4-ft set back, 1.64 ft row spacing, 10° tilt, and SW facing. This array has a capacity of 60 kW DC.



The roof area will be replaced before the PV system is installed. The roof replacement will be completed by October 7, 2022. The new roof will be a multiply built-up roof system. Each point of contact from the new solar array must have a minimum of 1.5" extruded polystyrene insulation & 1/2" high density rubber pad.

The selected installer must work closely with County staff to layout the PV system and conduit. The PV system is to be sited to avoid roof top mechanicals, drains (not all mechanicals, drains, clearances required around mechanicals, etc. are identified in the Helioscope image) and to provide access paths across the roof and to mechanicals that require maintenance. The County requires roof pathways for maintaining and replacing some mechanicals. The County will only allow the roof installation to begin after they approve the PV systems' layout.

The selected contractor shall meet in person with the roofing company (The Garland Company) on site, to review the installation method to ensure that the installation methods are acceptable and that the roof warranty is maintained. This is likely to include laying additional insulation / high density rubber pads under ballasted arrays and other measures. The insulation / rubber pads shall not be larger than the solar array's point of contact to avoid limiting drainage on the new roof system. The selected installer must send submittals to the local Garland representative for review and approval prior to start of any installation.

Roofing company contact information:

Troy Thompson

The Garland Company

612-991-4651

tthompson@garlandind.com

The County will provide the professional engineer (PE) review and approval of the building's structural ability to support the loads resulting from the specified PV system. A ballasted PV system should have a dead load of less than 5 pounds per square foot.

3.7. Replacing the existing solar transformer to accommodate the BESS and new solar

Typical solar PV inverters and BESS inverters are 480 V 3ph, whereas the Jail building is 208 V 3-phase. Some of the existing solar PV is behind a 480-to-208 V transformer, which is too small to accommodate the new solar and new BESS. The selected contractor is asked to replace this transformer according to the engineering drawings. The existing transformer will be saved by the County for future projects.

3.8. Installing all needed balance of system components including communications and metering.

The balance of systems includes the remaining electrical and structural work after the main energy assets and distribution wiring are considered. This includes panels, switches, disconnects, grounding, communication, labelling, metering, and more. The provided engineering drawing set explain in detail most of these requirements. The contractor should be well-suited to review the drawings and plan for and cost the balance of systems. However, BESS microgrids are relatively complex and new technology and therefore collaboration between the contractor and muGrid Analytics will be invaluable in choosing adequate and cost-effective equipment.

Attention should be paid to the metering and communication systems. Many industrial energy meters are adequate from manufacturers such as Schneider Electric, ABB, and DIRIS, and the contractor is given leeway to choose any meter which is ANSI C12.20 compliant with MODBUS TCP or MODBUS RTU capability. The utility will perform the final wiring step up to the pole-mounted RTAC (SEL 651R-2).

In addition, the Jail has two eGauge dataloggers installed and the Courthouse has one eGauge. The eGauges monitor:

1. The Jail total building usage
2. The Jail solar PV generation
3. The Courthouse building usage

Continued use of the eGauges is required and may be relocated if needed to continue this function.

3.9. Optional: Microgrid Maintenance Services

Bidders are invited to provide an optional price quote for providing the Microgrid's maintenance services. The maintenance services, at a minimum, should include:

- Responding to service calls

- Making site visits for troubleshooting, or otherwise, as needed
- Annual system inspections and cleaning of the inverters (dust buildup, animal nests)
- Providing brief, even verbal, reports of site visits made for any reason
- Maximum of 2 hour on site response time for faults involving total loss of power, heating, or A/C (typical response time otherwise)

The maintenance provider must:

- Train County staff to correct easily remedied issues (e.g., resetting inverters)
- Coordinate with County staff to correct easy to remedy issues over the phone
- Train County staff to operate and maintain the microgrid systems at the end of the maintenance contract (if needed or desired)

Section 4: General Requirements

- All electrical work shall be installed in accordance with the National Electrical Code (NEC) and all associated codes, standards, local ordinances, and Authorities Having Jurisdiction together with the recommendations of the manufacturer whose equipment is to be supplied and installed under this scope of work.
- All decommissioning and installation activities must conform to Occupational Health and Safety Administration (OSHA) directives.
- The selected contractor shall provide all material, labor, equipment, and transportation as necessary to complete the project in compliance with the RFP and any addendums. In general, this work includes everything essential for the complete Microgrid in operating order.
- All materials and equipment shall be new and latest type or model produced by the manufacturer.
- All materials and equipment shall meet the EIGP grant's Buy American requirements
- All labor shall meet the EIGP grant's Davis Bacon Act requirements
- All materials shall be suitably stored and protected prior to installation and all work shall be protected after installation, during construction and prior to acceptance.
- The selected contractor shall furnish all scaffolding, rigging, hoisting and services necessary for delivery, erection and installation of all equipment and apparatus required to be installed by the contractor. All such equipment shall be removed by the contractor upon completion of the project.
- All work and activities resulting in disturbance of existing infrastructure, facilities, and environment shall be fully restored to the original conditions upon completion of such work.
- PV modules and racking must comply with wind uplift requirements per the American Society of Civil Engineers Standard for Minimum Design Loads for Buildings and Other Structures and must be able to withstand design wind speeds of at least 100 mph (3-second gusts).
- The selected contractor shall work with the local electric distribution utility (Xcel Energy) to obtain and follow all necessary approvals, permits, and applications.
- The installation provider shall provide at least a 5-year Workmanship Warranty for all work completed for the Microgrid Project.

Insurance Responsibility

The Contractor performing the installation and maintenance services must provide:

- General Liability including Products and Completed Operations with a minimum limit of \$5 million per occurrence naming Bayfield County as an additional insured as respects all work done. The additional insured form should be a CG2010 or its equivalent to include completed operations for the additional insured – not just during ongoing operations.
- General Liability coverage should be primary and non-contributory

- General Liability limit should apply per project
- Worker's Compensation coverage as required by Wisconsin Statutes for all employees engaged in the work
- Waiver of Subrogation on General Liability and Worker's Compensation
- Auto liability- owned & non-owned, primary & non-contributory Minimum \$1 million CSL
- All Insurance carriers must have at least an AVII rating in the Best guide
- All policies must provide a 60-day written notice of cancellation
- Umbrella Liability coverage, following form, with a minimum limit of \$10 million.
- Demonstrate access to payment and performance bonds in the bid amount for insuring complete and timely installation of the project.

Both parties agree to negotiate in good faith to adjust actual pricing as necessary for specific sites to accommodate unique site requirements. Price changes will be implemented via change-order based on mutual consent of both parties.

Section 5: List of the RFP Components

Please clearly number each section for our ease of evaluation.

- 1) Transmittal Letter – Please provide a statement signed by a party authorized to sign binding agreements for projects of the type contemplated herein – the letter shall clearly indicate that the respondent has carefully read all the provisions in the RFP. Please include information as to your company's ability to meet the installation timeline and what could prevent your company from meeting the Project deadlines.

2) Scope of Work Descriptions

Respondents shall provide information (below) about the recommended components, technologies, and materials

1. State that the Microgrid will comply with all the requirements of Section 4 or list the items that would not comply and state why.

a) Updating the Courthouse's Electrical System

- i. Describe the scope of work
 1. HVAC
 2. Others as listed by bidder
- ii. Provide manufacturer spec sheets for key components

b) Decommissioning and removing the Jail's generator

- i. Describe the scope of work
- ii. Provide the generator removal plan and anticipated outage times.

c) Disconnecting the Courthouse's existing generator and moving, interconnecting, and commissioning the generator at the Jail

- i. Describe the scope of work
 1. Location of generator
 2. Generator changes
 3. Pad
 4. Transfer switch
 5. Conduits
 6. Disconnects

7. Interconnection
 8. Monitoring
 9. Other relevant details
- ii. Provide manufacturer spec sheets for key components
 - iii. Provide the generator removal and reinstallation plan and anticipated outage times
- d) Procuring and installing the controller for the Jail's elevator and ac loads
- i. Describe method to be used to shed elevator and ac loads
- e) Installing the BESS at the Jail
- i. Describe
 1. Where will the BESS be sited?
 2. Pad needs
 3. Conduit/disconnect
 4. Interconnection
 5. Monitoring system
 6. Other relevant details
 7. Roles of Switch Storage commissioning and the selected contractor
- f) Procuring and installing the new Jail PV system and tying into existing PV systems
- i. Provide a site plan for the new PV systems
 - ii. Provide a one-line diagram for the new (and existing) PV system(s)
 - iii. Describe the main technologies (modules, inverters, racking) that your company proposes for the new PV system and why those technologies would be in the best interest of the County
 - iv. Describe:
 - The new PV System's size kW DC (modules) and KW AC (inverters)
 - The expected Focus on Energy Incentive payment
 - Where and how the PV inverters will be located and mounted
 - The conduit routing plan
 - The location and conduit routing for the external disconnect switches
 - The PV array racking system
 - Other relevant PV system details
 - v. Provide the manufacturer spec sheet for the recommended new PV system inverters, optimizers (or similar is used), and racking
- g) Replace the existing solar transformer to accommodate new BESS plus solar

- i. Spec of chosen transformer according to requirements in drawings
 - h) Procuring and installing all needed balance of system components including communications and metering
 - i. Bill of Materials separated into categories such as battery, solar PV, communication, metering, building electrical system
- 3) For Pricing Respondents shall:
- a) Clarify any pricing assumptions inherent in your bid at the time of submittal and describe any market forces that could potentially occur in the next 1-to-10-month time frame that could affect those assumptions
 - b) Breakout the pricing, for the Project as follows:
 - 1) Price quote, provide separate breakouts each scope of work task using the format shown below. Clearly state whether the Focus on Energy Special Sector incentive is included, or not included, in your Solar PV pricing.

Item	Price
Updating the Courthouse's Electrical System	
Materials/Components	
Labor, Administration	
Other	
Subtotal	
Decommissioning and removing the Jail's generator	
Materials/Components	
Labor, Administration	
Other	
Subtotal	
Disconnecting the Courthouse's generator and moving, interconnecting, and commissioning the generator at the Jail	
Materials/Components	
Labor, Administration	
Other	
Subtotal	
Procuring and installing the controller for the Jail's elevator	
Materials/Components	
Labor, Administration	
Other	
Subtotal	
Installing the BESS at the Jail	
Materials/Components	
Labor, Administration	
Other	

Subtotal	
Procuring and installing the Jail's PV system	
Materials/Components	
Labor, Administration	
Other	
Subtotal ²	
Upgrading the existing solar transformer	
Materials/Components	
Labor, Administration	
Other	
Subtotal	
Procuring and installing all needed balance of system components including communications and metering	
Materials/Components	
Labor, Administration	
Other	
Subtotal	
GRAND TOTAL	

c) Provide the cost of extending the PV inverter warranty to 20 years

4) Bid Option: Microgrid Maintenance Services

a) Ongoing client service and Two-Year and Five-Year Microgrid Maintenance Services

- Describe the types and terms of the ongoing service of this Project covered by the component warranties, the installation warranty, and standard on-going client services
- Describe the services that would be provided by the 2-year and 5-year maintenance services. These services go beyond your component and workmanship warranties and your standard ongoing client services
- Provide a price for the Microgrid's first 2-years and 5years (this is not included in the \$135,000 contract price cap).

5) Project Schedule

Provide a project schedule indicating dates for the expected milestones, with each task referenced as well as a start and completion dates for the project (an example schedule is attached as Appendix 2). Please include routine project meetings to discuss scope, cost, and schedule.

6) References

² Include the value of the Focus on Energy Incentive

Provide four installation references for commercial PV projects, at least two of which were in excess of 50 kW DC, and BESS systems that have been completed by the bidder in the last 5 years. Describe any experience with similar microgrid projects, including the building electrical and generator scope items. The details needed for each system:

- Location of system
- Size of system
- General description of system
- Contact information (phone and email) for someone at the system site that is responsible for the system and familiar with your work

7) Construction Contract Form

Respondents shall provide a blank copy of their standard construction contract form. Any contract must include the RFP, and the selected bidder's proposal.

Section 6: Evaluation Criteria

The principal evaluation criterion includes the following:

Criteria
1. Component selection and warranties
2. Project cost
3. Prior experience installing, and commissioning similar Projects
4. Ability to finish on time: fully permitted, interconnected, commissioned, and placed in service

The selection committee reserves the right, at its sole discretion, to accept a response that does not satisfy all requirements but which, in the selection committee's sole judgment, sufficiently demonstrates the ability to produce, deliver, design, permit, install and satisfy the major requirements set forth in this RFP. The selection committee reserves the right to interview any or all respondents to this RFP, or to ask for additional information or clarifications. The selection committee expects to complete its evaluation process to select qualified contractors but reserves the right to change key dates and action as the need arises.

Section 7: General Rules

- 1) No Obligation – This bid document does not obligate the County to establish eligibility for any respondents, or to issue any subsequent bid documents or to enter into any agreements. The County reserves the right to cancel or re-issue this bid document at any time, and to solicit qualifications through any other appropriate method. The County further reserves the right to reject any and all bids or proposals, for any reason, and in its sole discretion.
- 2) Rejection of Proposals – The County’s selection committee may reject any response that it deems to be incomplete, unresponsive, and inaccurate in its representation or which is unacceptable, for any reason.
- 3) Substitutions – Respondents may substitute or alter their responses subsequent to the submission date only if such changes are approved in writing to Madison Solar Consulting.
- 4) Cost of Proposal and Non-Compensation – Each respondent is solely responsible for all costs associated with responding to this bid document. Neither the County nor Madison Solar Consulting will in any event reimburse any respondent for any costs associated with this bid document.
- 5) Delivery of Proposals - Each respondent is solely responsible for assuring a timely submittal of its response to Madison Solar Consulting. Late responses may not be accepted. Proposals must be submitted via email to Niels Wolter at the addresses note above.
- 6) Withdrawal of Proposal – Responses to this bid document may be withdrawn after submission by written request to Madison Solar Consulting.
- 7) Disposition of Proposals – All submittals and the information therein become the property of the County upon submittal. Proposals shall be returned only at the County’s sole discretion.

Appendix 1. Switch Storage BESS Specification and Quote



Switch Storage Solutions, LLC

15511 Highway 71 West
Suite 110-513
Austin Texas 78738
U.S.A

Quotation

EST-211131

Bill To
muGrid

Estimate Date : 08 Dec 2021

Expiry Date : 15 Jan 2022

Reference# : Bay Field County

#	Item & Description	Qty	Rate	Discount	Amount
1	BESS MG 125-110 ELM FieldSight Controller 60" X 36" X 104" NEMA 3R Enclosure 110kWh of UL9540A batteries+BPU Kore BMS DynaPower 125kW PCS Isolation transformer required (not included) 24 VDC Power Supply + UPS Integrated HVAC and Fire Suppression NEMA 3R Main Enclosure Junction Panel with terminations Power Meter UL 9540, UL 1973, UL 9540A and UL 1741 SA	1.00	135,000.00	11.00%	120,150.00
2	On Site Commission Support On site commissioning support for Microgrid startup and commissioning. Includes supervising the loading and startup of batteries.	2.00	1,250.00	0.00	2,500.00
3	150 kVA transformer 480D - 480/277 Wye MGM 150 kVA isolation transformer 480 D - 480/277 Wye NEMA 3R	1.00	10,444.00	18.00%	8,564.08
				Sub Total	131,214.08
				Total	\$131,214.08

Notes

Looking forward for your business.

Appendix 2. Project Schedule

Please include routine project meetings to discuss scope, cost, and schedule

Please modify as appropriate.

Activity	Date
Contractor selected and under contract	March 31, 2022
Final Project design and specifications completed	
Contract negotiations completed	
Execution and delivery of signed contract	
Complete design activities	
Earliest BESS delivery date	July 15, 2022
All permit applications applied for and approved	
Courthouse's electrical system updated started	
Courthouse's electrical system updated completed	
Interconnection application submitted	
Utility interconnection and distribution system studies	
Interconnection Application approved	
Decommission and remove the Jail's 200 kW generator	
Install the load-shedding control for the Jail's elevator	
Move the Courthouse's generator to the Jail	
Install the BESS at the Jail	
Delivery of PV system components	
PV system installation begins	October 7, 2022
PV system and transformer installation completed	
All needed balance of system components installed	
Utility interconnection testing	
Project commissioned, utility interconnected and fully operational	November 30, 2022

Appendix 3. 90% Engineering Plan Set

To be provided ASAP